

Table of Contents

About TSSPDCL.....	2
Abstract.....	3
Chapter 1.....	4
1.1 Introduction To - 33/11 Kv Substation.....	4
1.2 Single Line Diagram Of 33 Or 11 Kv/440 V Substation:.....	5
1.3 Circuit Breaker(33Kv).....	6
1.4 LV Breaker.....	7
1.5 Lightening Arrestors :.....	7
1.6 33KV-Bus.....	8
1.7 Disc Insulators.....	8
1.8 33 KV Potential Transformer.....	9
Chapter 2.....	10
2.1 Breaker Mechanism.....	10
2.2 AC And DC Supply In Transformer.....	11
2.3 Buchholz Realy.....	11
2.4 Current Transformer.....	12
2.5 Interrupter.....	13
2.6 Auxiliary Switch.....	13
2.7 Closing Coil Of Circuit Breaker.....	14
2.8 Tripping Coil In Circuit Breaker:.....	15
2.9 Limit Switch.....	16
2.10 TNC Switch.....	16
Chapter 3.....	17
3.1 Distribution Transformer.....	17
3.2 Voltage Transformer.....	17
3.3 Earth Mats:.....	18
3.4 Earth Grid:.....	19
3.3 Power Transformer.....	20
3.4 Parts Of A Transformer:.....	21
Chapter 4.....	25
4.1 Maintenance and Inspection.....	25
4.2 Schedules.....	26
Chapter 5.....	29
5.1 Conclusion.....	29
5.2 References.....	30

About TSSPDCL



The Southern Power Distribution Company of Telangana, abbreviated as, TSSPDCL is a state Electricity Distribution company owned by the government of Telangana for the five southern districts of Telangana.

The Southern Power Distribution Company of Telangana Ltd (TSSPDCL) was incorporated under the Companies Act, 1956 as a public limited company on 02.06-2014 with headquarters at Hyderabad to carryout electricity distribution business as part of the unbundling of erstwhile A.P.S.E.B.

TSSPDCL has a vast infrastructure facility in its operating area with 1,605 Nos. of 33/11 KV substations 3,102 Nos. of power transformers, 1,220 Nos. of 33 KV feeders 7,263 Nos. of 11 KV feeders and around 4,22,003 Nos. of distribution transformers of various capacities. In addition to these, solar power is also considered a priority in order to overcome the shortage of power in the state.

TSSPDCL encompasses an area of 15 districts viz., Mahabubnagar , Narayanpet, Nalgonda , Yadadri Bhuvanagiri , Suryapet , Siddipet , Medchal , Wanaparthy , Nagarkarnool , Jogulamba Gadwal , SangaReddy , Medak , Hyderabad , Vikarabad and Rangareddy Catering to the power requirements of 9.75 million consumers.

Abstract

A substation is a part of an electrical generation, transmission, and distribution system. Substations transform voltage from high to low, or the reverse, or perform any of several other important functions. Between the generating station and consumer, electric power may flow through several substations at different voltage levels. A substation may include transformers to change voltage levels between high transmission voltages and lower distribution voltages, or at the interconnection of two different transmission voltages.

Substations may be owned and operated by an electrical utility, or may be owned by a large industrial or commercial customer. Generally substations are unattended, relying on SCADA for remote supervision and control.

The word substation comes from the days before the distribution system became a grid. As central generation stations became larger, smaller generating plants were converted to distribution stations, receiving their energy supply from a larger plant instead of using their own generators. The first substations were connected to only one power station, where the generators were housed, and were subsidiaries of that power station.

Substations may be described by their voltage class, their applications within the power system, the method used to insulate most connections, and by the style and materials of the structures used. These categories are not disjointed; for example, to solve a particular problem, a transmission substation may include significant distribution functions.